# Parapsychology Bulletin

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## Pigeon Homing and Parapsychology

The question of how pigeons find their way home from distant release points has been under investigation in the Parapsychology Laboratory for three years. It has not been apparent to everyone, however, just what the connection is between this research with pigeons and the general program of parapsychology. Accordingly, it seems appropriate to review the way in which this branch of the psi investigations developed with relation to the general program, and perhaps to add something about its present direction.

In order to do this we must look back to 1950, to the beginnings of a project devoted to investigating psi in animals, and beyond this to the more fundamental questions which led up to that investigation. In 1950, the studies of psi in human beings had given no indication that the capacity is limited to special groups or subdivisions of the human species. On the contrary, the more the investigations were extended and comparative studies were made, the more likely it seemed that psi is a generalized human capacity. The question that naturally followed was whether psi is limited to the human species. Such questioning was encouraged by the results of a few exploratory experiments with animals that had already been carried out (such as the tests with Bechterev's dogs and the Rhines' work with the horse Lady).

The result was that a program was initiated in 1950 at the Parapsychology Laboratory to collect available material on animal behavior which suggested the possibility of ESP. This material consisted not only of systematic observations from the biological sciences—studies of migratory direction-finding in birds and certain marine animals, and experiments on homing behavior in mice, cats, pigeons, and dogs—but also the more casual anecdotal cases of odd behavior of pet animals. This rather extensive survey clearly indicated that there was a large section of animal behavior which could not be adequately explained by any existing theories. To account for it, some new explanation, either ESP or a different sensory hypothesis, would have to be supplied. The situation seemed to justify the launching of an experimental program at the Parapsychology Laboratory on the question of whether animals have psi.

The three most promising species on which to initiate such an investigation were dogs, cats, and pigeons. The subsequent (still unpublished) efforts made with dogs were encouraging but they offered more difficulties than the other two. Some experiments by Dr. Karlis Osis and his associates gave definite, even though not striking, evidence of ESP in cats. In many ways, however, pigeon homing made the strongest appeal; and Dr. J. G. Pratt, whose background included graduate research in animal behavior, undertook a systematic investigation of the problem. Early in the undertaking he affiliated himself with the work of Dr. Gustav Kramer of the Max-Planck-Institut in Wilhelmshaven, who had already started on research on the general problem of bird navigation. With the approval of the Duke University administration, Dr. Pratt obtained a grant from the Office of Naval Research which enables Dr. Kramer and his associate, Dr. Ursula von St. Paul, to spend a part of each year at the Parapsychology Laboratory collaborating in the homing research. The program has developed along lines that give full recognition to the fact that for Dr. Pratt and the Parapsychology

Laboratory the paramount question is whether or not ESP is a factor.

One thing was definitely clear from the start: there was no generally accepted explanation of pigeon homing. It was an established fact that some pigeons could find their way home from distant release points that were entirely new and unfamiliar. Many hypotheses had been considered by early investigators and had been rejected one by one when put to experimental test. There was one new hypothesis in the sensory area which, because it was novel and untested perhaps, had more interest than any of the older views. This was called the sun-arc hypothesis. It was originated by Dr. G. V. T. Matthews of Cambridge University, who took his cue partly from studies by Dr. Kramer which showed that birds are responsive in a general way to the sun's position and that they allow for a shift in its position with the passage of time. Dr. Matthews developed the hypothesis that the bird, on release, is able to take extremely accurate readings on the direction and "movement" of the sun and to project the curve upward to find the sun's highest point. By means of very accurate estimates of when the sun would be at its noonday position and of the distance from the horizon at that point, the bird is supposed to know which way to fly to restore the sun to its proper place in the sky, the one which the pigeon presumably has memorized at the home loft.

Fantastic as this hypothesis may seem, it would appeal to many scientists merely because of its sensory basis, and for that reason would be considered ahead of the possibility of extrasensory perception.

It was at the time of the announcement of this sun-arc hypothesis that Dr. Pratt's work began. Obviously, if the Matthews hypothesis were correct, ESP was not necessary, and one of the first objectives of the research, therefore, was the testing of the sun-arc hypothesis. Tests were made to bring this matter to a focus, and several such experiments have already been reported. Dr. Kramer took caged pigeons away from their home loft in Wilhelmshaven to a distant release point, keeping them in the shade or in darkness from the time they left home until thirty seconds before they were released. He found that with only this short opportunity to observe the sun, they oriented approximately as well as birds that were exposed for hours to the sunlight. Birds of both groups turned toward home within approximately ten seconds of flight. Dr. Pratt, with the collaboration of Dr. R. H. Thouless, a Cambridge University psychologist, carried out some tests in North Carolina in which he eliminated the thirty seconds of exposure to the sun before release. The results suggested that choice of the homeward direction still occurred within ten seconds after the pigeons were released, and subsequent tests have strengthened this finding. This more or less reduces the Matthews hypothesis to a point of unreasonableness, and other experiments have revealed further difficulties for the Matthews view. At this point, it is safe to say that at least Dr. Pratt and his German colleagues do not consider the Matthews hypothesis to be the explanation of homing orientation which the pigeon shows on release, and aside from Matthews himself, it is doubtful if anyone who knows the facts holds this view.

ESP, then, is the only hypothesis, so far as present knowledge goes, that could account for this ability. Were it not for the conspicuous bias of the average scientist against this type of explanation, ESP would be readily accepted as relevant to pigeon homing and quickly brought to test. When we compare the readiness with which purely conjectural hypotheses have been stretched and strained to try to explain this puzzling animal behavior, it shows up as a striking contrast, then, that zoologists have not really seriously considered this performance as a possible application of ESP.

There is, however, ample indication that if a satisfactory demonstration of ESP as a factor in pigeon homing could be made, it would be taken seriously by a fair number of biologists. This possibility constitutes a good part of the opportunity represented by the investigations of Dr. Pratt. Holding to standards of evidence and experimental design recognized throughout the field of biology, he is attempting to determine if possible whether or not ESP is to a measur-

able degree involved in pigeon homing. This calls not only for the elimination of all alternative sensory hypotheses, but also for statistically significant results interpretable only in terms of ESP. It is, of course, a pioneer undertaking and by no means a small one.

Perhaps the greatest handicap this research has had to face is the necessity for working under field conditions. At least, homing experiments have required this in the past and continue to do so at present. However, all the investigators recognize the need for a method of studying the homing effect under more restricted conditions, and a number of efforts have been made to find such a method. These attempts have ranged widely, from trying to bring the pigeons into the laboratory to moving the familiar loft, without the pigeons, to unfamiliar locations to see if the birds could find it. Thus far, these efforts have not been fruitful.

Before the question of ESP in pigeon homing is answered, however, the problem will almost certainly have to be moved to a scene of operation more fully under the control of the experimenter. And since the establishment of a case for ESP will depend on excluding all sensory possibilities, the narrower the experimental stage, the better, if it still allows the bird to home. Even the thought of a move toward laboratory restraint raises the question, naturally, as to whether the pigeon—even if it should be using ESP in homing in the field—can be brought to utilize such a delicate function if moved into the more artificially controlled situation. It would be a first requirement of such a test, in any case, that it permit the operation of the ability which it is designed to test.

There can be little question that if ESP is discovered to be a factor, even a partial one, in the dramatic homing of the pigeon, an important corner will have been turned in the progress of parapsychology, and the discovery will have far-reaching implications beyond that field. Evidence of such an important biological relationship would provide a broader scientific foundation for psi and enormous advantages of a highly practical nature as well.

The real task ahead for Dr. Pratt, then, as a parapsychologist, will be to find an ESP test that is suitable for pigeons, one that utilizes the demonstrated capacity of the bird to orient accurately on release in unfamiliar territory. And when we consider that, as of 1955, modern science has not yet accounted for this puzzling behavior—well known to man for thousands of years—it will hardly seem to anyone that the undertaking is an unreasonable venture. But that still does not make it an easy one.

## General News

Two new psychic research societies were formed last fall: one in Bombay by a group of scholars and medical men; the other at Massachusetts Institute of Technology where a group of undergraduate students formed the M.I.T. Psychic Research Society (Roy E. Norris, Jr., President).

The Society for Psychical Research at University College, Leicester, England, released Number 2 of its *Journal* in October, 1955. The *Journal*, reporting on the second year of the Society's activities, contains a presidential report by the new Honorary President, Prof. Stewardson, an account of experimental research on the effect of emotional states on ESP, and an article on spiritualism.

## Books and Magazines

Parapsychology Foundation, Inc. has just published the papers presented to the Utrecht conference. They form a neatly condensed volume entitled *Proceedings of the First International Conference of Parapsychological Studies.*

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The authors of two new books in fields outside parapsychology have commented on the importance of the psi research. In his latest book, *The Biology of the Spirit* (Viking Press), the distinguished biologist, Edmund W. Sinnott, again calls attention to the need of the biological sciences to keep open to new ways of viewing nature and to phenomena overlooked in the past. And again, as in earlier works, Dr. Sinnott refers to the field of parapsychology as one that calls for a reconsideration of the nature of space and time.

In *The Foreseeable Future* (Cambridge University Press), Sir George Thomson tells what he thinks the world will be like, in a technological sense, a hundred years from now. In speaking of the changes that may come as knowledge of the brain increases, the author touches on the relationship of thought and brain and then goes on to discuss the status of parapsychology. "The importance of the subject is enormous," he says, "and much too little work is being done on it."

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One of the recently published psychology books includes material on the psi research. *Present-Day Psychology* (Philosophical Library) is the first book on general psychology, we believe, to devote a chapter to introducing the field of parapsychology to its readers. The book, a collection of forty chapters by experts in their various fields, is edited by A. A. Roback. The chapter referred to is "Introduction to Experimental Parapsychology," by J. B. Rhine. It was included by the editor for a reason which is well worth quoting: "We feel, at any rate, that students of psychology should have at least an idea as to what it [parapsychology] is all about so that they can take a stand toward it. The great sin of official psychology seems to be ignoring minority activities and convictions. . . . Let us first be enlightened; then we can discuss intelligently."

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A new textbook, *Psychology for Life* by Harry Ruja (published by McGraw-Hill), discusses the research in parapsychology in connection with the controls that are required by scientific method. The author cites arguments of the critics of twenty years ago (mostly on the subject of recording errors) in discussing the standing of parapsychology today.

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The January 6 number of *Science* contains replies to the article by George R. Price, "Science and the Supernatural," which appeared in *Science* for Aug. 26. The replies which the editors accepted for publication are those of J. B. Rhine, S. G. Soal, B. W. Bridgman, Paul Meehl, and Michael Scriven. The same issue contains a rejoinder by Dr. Price and a final comment by Dr. Rhine.

The *Journal of Parapsychology* has received a number of contributions to the controversy, some of them sent by the authors at the suggestion of the *Science* editors. These, along with abstracts of the articles and rejoinders appearing in *Science*, will be published in the next issue of the *Journal*.

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The philosophy of psi is discussed by C. Judson Herrick, distinguished neuroanatomist, formerly of the University of Chicago Medical School, in an article in the *Psychological Review* (No. 5, 1955). The title of the article is "Psychology from a Biologist's Point of View." Dr. Herrick recognizes the need for taking the findings of parapsychology with full seriousness as empirical facts and he emphasizes their importance. He strongly opposes any dualistic interpretation of them and insists that psi phenomena are manifestations of the physical organism even though the principles of operation are not understood.

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Some further discussion of the Roland Walker article ("Parapsychology and Dualism," *Scientific Monthly*, July, 1954) has been contributed by James Crumbaugh. His article, "One World—or Two?" in the October number points out semantic difficulties which, he believes, underlie the apparent differences between mechanists like Walker and most parapsychologists.

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In a popular article by Ben Pearse on direction-finding in animals ("Why Animals Don't Need Maps," *Saturday Evening Post*, October 1) there was a brief description of the experiments in pigeon homing which are being carried out by Dr. J. G. Pratt of the Parapsychology Laboratory.

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A new French magazine, *La Tour Saint Jacques* (Robert Amadou, editor) will have one section regularly devoted to parapsychology.

The PARAPSYCHOLOGY BULLETIN, issued quarterly, is sent to all *Journal of Parapsychology* subscribers. Others may subscribe for $1 a year by applying to the editor.